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ABSTRACT

This paper describes one course offered in the Economics Department at the Drexel University (DU), Philadelphia, Pennsylvania, that uses directed learning and focuses on public sector problems. As the opening notes, the course is titled "Learn by DU-ing" ("DU" is a reference to Drexel University) and offers a menu of approximately 17 integrated private and public problems and policy issues. The course combines classroom lectures with real world applications. Students work in inter-disciplinary and multi-disciplinary teams consisting of undergraduates and graduates. This paper describes an "in class" experience specifically involving the learning format of project groups and teams. In the first of three main sections the reasons for examining the group effort in class work are discussed, namely that real situations provide the only mechanism by which students can experience the scope of techniques and integrations that are necessary in creating and using connected frameworks to solve real-world problems and that projects allow students to make contributions to the community. The second section describes the approach used in attempting to assess the efficiency and effectiveness of the team approach in class experiences. The final section presents the findings of that effort including a 96 percent positive experience with the team approach. Analysis of responses and the questionnaire are appended. (Contains 18 references.) (JB)

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Drexel University

Learn By DU-ing
What's wrong with the team approach?
One class' experience

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Outline

I. Introduction

II. What did we try to DU?

III. How did we try to DU it?

IV. What did we DU?

V. What did we find out?

* This outline is consistent with the learning framework of the "reflective practitioner" approach developed by Professor Donald Schon of MIT.

I. Introduction

The Economics Department at Drexel University offers a directed learning experience to students that combines classroom lectures with real world applications involving various public sector problems. The course is an elective for students with prerequisite courses that contain the traditional techniques for problem solving. Students work in inter-disciplinary and multi-disciplinary teams consisting of undergraduates and graduates. Projects involve such public sector issues as traffic flow through a mixed residential-merchant neighborhood; formulation, implementation and monitoring of litter reduction strategies; use of inmate labor to clean up areas; street people analysis; business community promotion, and recycling strategy for used tires. Our University, through its "Philadelphia Community" task force connection, seeks to serve as a resource for objective quality analysis in the Private/Public Policy decision-making process. At the same time, we offer students an opportunity to pursue large scale problems in directed project teams that simultaneously provide a learning experience through the application of classroom theory and real service to the community.

The course is titled "Learn By DU-ing"* and, as noted above, offers a menu of approximately seventeen integrated private and public problems and policy issues. The purpose of this paper is to share an "in class" experience specifically involving the learning format of project groups and teams.

The paper consists of three sections. First, we look at the need to scrutinize the group effort in our class work. Second, we describe our approach in attempting to assess the efficiency and effectiveness of the team approach in our experiences (How and what did we try to DU?). Finally, we present our findings.

* The DU is a reference to Drexel University. The class is also referred to as The Drexel University/Philadelphia Community Connection.

II. What did we try to DU? and why?

We believe that the use of real world projects permits the attainment of two goals involving students. First, as has been argued by some researchers, the real situations provide the only mechanism by which students can experience the scope of techniques and integrations that are necessary in creating and using connected framework to solve real-world problems (Bajgier et, al., 1991; Jackson, 1988; and Rosenhead, 1986). Second, "real living laboratory" projects allow students to make contributions to the community. This latter goal has been deemed desirable enough by some colleges to make it a mandatory requirement for graduation (Dodge, 1990).

With the above as our learning theory and philosophy, a necessary working and organizing pedagogical unit is the project team/group. Given the tremendous potential of this overall Learn by DU-ing experience, outcomes are in large part dependent upon the efficiency and effectiveness of group behavior and work.

Professors Strong and Anderson point out in the Journal of Marketing Education; Summer 1990,

> "Most marketing academics and practitioners would agree that group projects have great value. However, free-riding by one or more students is a prevalent problem. Free-riding occurs when an individual collects the benefits of group output without contributing; the term social loafing is used by social psychologists to describe the same behavior, and the terms will be used interchangeably. The causes of free-riding, or social loafing, are theorized to include both structural and process factors, which are discussed in this article."

We concur that free-riding is an important behavior to consider in evaluating the team/group effort. Further, in our experience for the past two and one half years, working with over five hundred students placed in groups ranging in size from two students to as high ten students, it is very obvious that the team/group

dynamic is critical for individual and group performance. Recently, this historical perspective has prompted us to look at our own house and experiences. The method and results follow.

III. How and what did we Du?

Our method is simply to bring to bear on the issue of group/team learning and participatory performance the largest number of perceptions, points of view and critical opinions.

Central to the concept of our course is the use of large complicated and multidisciplinary problems. Clearly, students must draw on a wide variety of conceptual and analytical tools they hopefully learned in their four or five years as an academic and Co-op student. In addition, however, students must draw on a wide variety of faculty members, non-traditional faculty members, organizations and numerous constituents (city officials, merchants, residents and police) involved in an issue. This environment is what provides the course with its greatest strength and also its greatest weakness.

We have asked students and all other participants in our effort to evaluate the team/group approach from their perspective. Strong and Anderson's categories of "structural causes" and "process causes" for free-riding are a comprehensive and convenient framework to overlay partially on our efforts here. (Journal of Marketing Education Session,1990,p.61,64).

IV. What did we find out?

A. Students

On two separate occasions, students were asked to assess their team/group learning experience in our class. On occasion one, we asked last quarter students (on the last night of class) the following question - "From your perspective, rate the team approach in your learning process." On a scale of 1 to 10 (low end superior, high end negative), the average rating for 26 students was approximately 3.5 with a standard error of 0.487 (a somewhat positive experience). Of the 26 students, 16 students recommended the use of the team approach, 5 students recommended its use for a team size of four or less members and 4 students would not recommend the team approach. The specific comments from the students are presented in Appendix A. The comments range from "it's an outstanding learning experience" to "scheduling problems may preclude the use of a team/group approach."

On occasion two (this term), 56 students were asked six questions relative to their team/group work and learning experiences. The questionnaire is presented in Appendix B. The distribution of responses are presented below:

NUMBER OF CLASSES

CLASS I	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	1	1.8	1	1.8
2	4	7.1	5	8.9
3	10	17.9	15	26.8
4	9	16.1	24	42.9
5	10	17.9	34	60.7
6	8	14.3	42	75.0
7	6	10.7	48	85.7
8	5	8.9	53	94.6
10	3	5.4	56	100.0

FAMILIAR OR UNFAMILIAR ?

BENEFICIAL	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
unfamiliar	13	32.5	13	32.5
familiar	27	67.5	40	100

IS THERE FREE-RIDING ?

FREE-RIDING	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
no	6	10.7	6	10.7
yes	50	89.3	56	100

IS IT AN OBSTACLE ?

OBSTACLE	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
no	27	51.9	27	51.9
yes	25	48.1	52	100.

Size of Group ?

TERM	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
no	13	24.5	13	24.5
yes	40	75.5	53	100

POSITIVE EXPERIENCE WITH GROUPS ?

EXPERIENCE	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
negative	2	4	2	4
positive	48	96	50	100

Students in our class, on the average have taken 5 courses during their stay at Drexel University involving group work. Sixty-seven percent prefer to work with team members with team members with whom they are familiar. Ninety percent observe that free-riding exists. Interestingly, only forty-eight percent argue that free-riding was an obstacle to team work and performance. In addition, seventy-five percent of the class members feel that the size of the groups is important. The preferred size of the group they indicated is, on the average, four students. Overall ninety-six percent of our class indicated some level of positive experience with the team approach.

B. Nontraditional Faculty Observations

Question: Is working in groups considered to be a good or bad thing in our type of course?

Two local merchants and a public sector consultant have participated in our course on a regular basis for two and a half years, and their response is as follows:

Merchants

There are two distinct schools of thought to examine in determining the answer to this question. First, we believe we should be teaching students to work independently so they can develop into problem solvers and decision makers. Secondly, the realistic world of the future, which has been molded by a very short-term past, seems to discourage the decision maker. This results in the leader hiding within the group, and has created a rather simple-minded middle and upper executive level, followed by an apparently uncaring "do as little as possible to just get by" working class. We have sunk to such a low level that the entrepreneur is now considered the exception, and the mediocre is the norm.

So, do we allow the "pack" formation of teaching, i.e. form a group and pray that one or two of them can carry the group and get the job done, or strive to teach individuality and let the best shine and the average or below fall back?

I believe that we need to encourage the individual to excel, but with the understanding that in today's economy the 'pack mentality' must be dealt with. For example, bankers don't make their own decisions, but hire enough consultants to take the blame if they make a bad choice. Also, one must learn to write copious memos documenting the absurd, so that no one can be blamed for what the group does; however, one never makes the final decision.

Public Sector Consultant

The strength of this nontraditional approach is the positive experience reported by 96% of the students in our current class. A goal in education to create decision makers is appropriate and it occurs within a group rather than in an independent venue. Decisions affect people and the dynamic of that effect is measured by the response to the decision. This method of education is practical, realistic and preparatory for the real world; it is the real world.

C. General Observations

Strong and Anderson in their summer 1990 effort list as structural causes to free-riding items such as a) task characteristics, b) identifiability, c) group size, and d) rewards and punishment. Process causes are listed as a) goal development, b) communication, c) group cohesiveness, and d) group norms. Our experience over the past two and a half years supports the general framework of analysis and findings of Strong and Anderson. Students have mentioned as important determinants, all of the situational and process issues discussed in the literature and excellently summarized and evaluated by Strong and Anderson.

Relative to this framework we offer the following:

1.) The classroom and its setting as we know of it may be the most inefficient and ineffective environment in which individual students and / or teams may undertake a " real living problem, issue, and decision making process". Trying to compensate for the complicated, integrated, and comprehensive nature of a decision making process by having students work together may be circumvented and prejudiced by the "unrealistic and fabricated" time constraints imposed by an academic setting. The condition is made worse when the "real living" schedules of the students and the resource faculty are imposed on the setting. The efficiency and effectiveness of group work is clearly a function of communication, interface, group analysis, and preparation time together in some interaction process*. Given the best of situations with all of the other structural and process determinants, the "real living student's schedule" is an overbearing and comprehensive constraint. With students having to work more and more to support their education, the "real living schedule" constraint is even more restrictive of performance and may contribute to "free-riding", "social loafing", enhanced "sucker effect", and to a team "couch potato effect" (give it up and fake it).

2.) We find that teams which are in more contact with their resource faculty member are more consistently active, better focused, and more likely to meet the fabricated constraints of the academic setting and provide some "real output".

3.) One way to mitigate somewhat, the " real living schedule effect ", is to have the students roll over the course. Although this has some impact, the likelihood of all the team members rolling over the course for the following term is quite small. Transition is clearly an issue and passing on work to a new team

* Efficiency is defined as DU-ing Things Right and effectiveness is defined as DU-ing the Right Thing and Non Things.

with some old team members needs to be evaluated. A better solution may be to have a full year project with teams intact for three terms. We hope to experiment with this approach in the 1992 academic year.

Final comments

There may be something more critical and fundamental at stake here: The traditional classroom / lecture / workshop / recitation / textbook / one way learning theory and philosophy. We are reaching diminishing returns to discipline specialization and the term / course / subject matter curriculum. Perhaps a learning setting involving a student's long term commitment and participation using concepts, analysis and a focused project throughout the student's accademic career may be more appropriate. We need to look at this possibility.

One final/final comment

As you can see, the participants producing this paper include faculty members, students, merchants, public policy officials and a teacher/administrator. The story of this group/team effort will be the topic of another paper. Here, it is enough to point out that the preparation of this small piece of research is loaded with issues that this paper has attempted to investigate.

Appendix A
Results Fall Term 1991-92
Specific Responses By Students

From your perspective, rate the team approach in the learning process:

16 students recommend the team approach because:

(4) -It's important to work with a team; it's the only way it can be done

(4) -Provides you with a collaborative learning environment, the ability to hear other ideas and to deal with people

(2) -More can be done with different perspectives

(2) -Teams are great and they allow flexibility

(1) -If the team members are productive then the entire group is productive

(1) -Groups are good with a division of labor clearly established

(1) -Only if you can choose your own group

5 students believe that small groups (3 or 4 students) are good because:

(2) -Large group demand is too much division of labor

(2) -You must be able to organize around each others' schedule

(1) -If people are genuinely interested in the project and want to accomplish the goals set forth by the team

4 students do not like the team approach because:

(3) -There was too much disharmony at certain times; two individual tasks should have been laid out more clearly

(1) -It's very difficult to get schedules to correspond to complete group tasks

1 student did not understand what the question was asking

Appendix B
Team Approach Questionnaire

1. How many classes including "Learn by DU-ing" have you had which involved a team component? State how many classes from each college.

2. From an outcomes perspective and given your experience now and in the past, do you believe it more beneficial to work with members you know or members with which you are unfamiliar?

3. a. In your opinion, has there been free-riding in the team approach?

   b. In your experience, has free-riding been an obstacle to the performance of the group?

4. a. Do you think that the size of the group is a determinant in the learning process?

   b. In your experience in this class so far, what would be the appropriate group size?

5. From your perspective, rate the team approach with respect to the learning experience so far and why?

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